INDEX OF AUTHORS
Volume 30, 1990

A

Abid, M., Gibert, R., and Laguerie, C.
An experimental and theoretical analysis of the mechanisms of heat and mass transfer during the drying of grains of corn in a fluidized bed 632
Aly, S., Pibouleau, L., and Domenech, S.
Treatment of batch, packed distillation by a finite-element method. Part I. Steady-state model with axial dispersion 453
Part II. A steady-state model with axial and radial dispersion and a dynamic model 464
Anabuki, K. See Ito, R.
Antorrena, G. See Vazquez, G.
Aragaki, T., Toyama, S., Salah, H.M., Murase, K., and Suzuki, M.
Transitional zone in a falling liquid film 495

B

Bando, Y., Kuraishi, M., Nishimura, M., Hattori, M., and Takeshita, I.
The characteristics of flow of a bubble column with a gas-suction-type, simultaneous gas-liquid injection-nozzle 729
Barcal, P. See Zábranský, M.
Barious, B., Foyen, S., Mameri, N., and Jarny, Y.
Ultrafiltration in an unstirred cell. 1. Uncharged macromolecules at a rejection ration of $R = 1$ in the absence of a gel 672
Bermudez, A. See Vazquez, G.
Blass, E.
Formation and coalescence of bubbles and droplets 206
Brauer, H. See Brehm, G.
Brehm, G. and Brauer, H.
Investigation of turbulence in grids of particles...375
Brunner, G.
Mass separation with supercritical gases (gas extraction).....191

C

Castresana-Pelyao, J.M. See Gonzalez-Velasco, J.R.
Chenlo, F. See Vazquez, G.
Choi, C.K. See Kim, L.H.
Choi, C.K. See Lee, J.D.
Choi, U. See Kim, L.H.

D

Daguenet, M. See LePalec, G.
Daraktschiev, R.
The distribution of gas over the cross section of packed towers 222
Dascalu, C. See Pavel, A.
Degiovanni, A. See Moyne, C.
Dohmen, H.-J., Janssen, M., and Grahl, K.G.
The calculation of three-dimensional parabolic flows with arbitrary boundary geometries 21
Domenech, S. See Aly, S.

E

Eckert, E. See Kasper, VV.
Eguchi, W. See Mori, Y.

F

Foyen, S. See Barious, B.
Friedel, L. and Westphal, F.
Models for the prediction of leakage rates from pressurized equipment and pipes in chemical plants.....620
Fujiwara, K. See Ono, H.

G

Gibert, R. See Abid, M.
Görner, K. and Zinser, W.
Simulation of industrial combustion systems...607
Gonzalez-Marcos, J.A. See Gonzalez-Velasco, J.R.
Gonzalez-Velasco, J.R., Gutierrez-Ortiz, M.A., Castresana-Pelyao, J.M., and Gonzalez-Marcos, J.A.
Modeling of batch distillation by the pulse-response method 568
Gorak, A., Kraslawski, A., and Vogelpohl, A.
The simulation and optimization of multicomponent distillation 1
Grahl, K.G. See Dohmen, J -J.
Gutierrez-Ortiz, M.A. See Gonzalez-Velasco, J.R.

H

Han, S.B. and Park, P.W.
Absorption from rising bubble of SO_2 into pure water 308
Han, S.-K. See Youn, J.-T.
Hao, Y.-J. and Tanaka, T.
Analysis of a solid-solid reaction controlled by unidirectional diffusion 244
Harada, E. See Kuriyama, M.
Harada, E. See Muriyama, M.
Harada, M. See Takeshita, T.

INDEX OF AUTHORS
Volume 30, 1990

A

Abid, M., Gibert, R., and Laguerie, C.
An experimental and theoretical analysis of the mechanisms of heat and mass transfer during the drying of grains of corn in a fluidized bed 632
Aly, S., Pibouleau, L., and Domenech, S.
Treatment of batch, packed distillation by a finite-element method. Part I. Steady-state model with axial dispersion 453
Part II. A steady-state model with axial and radial dispersion and a dynamic model 464
Anabuki, K. See Ito, R.
Antorrena, G. See Vazquez, G.
Aragaki, T., Toyama, S., Salah, H.M., Murase, K., and Suzuki, M.
Transitional zone in a falling liquid film 495

B

Bando, Y., Kuraishi, M., Nishimura, M., Hattori, M., and Takeshita, I.
The characteristics of flow of a bubble column with a gas-suction-type, simultaneous gas-liquid injection-nozzle 729
Barcal, P. See Zábranský, M.
Barious, B., Foyen, S., Mameri, N., and Jarny, Y.
Ultrafiltration in an unstirred cell. 1. Uncharged macromolecules at a rejection ration of $R = 1$ in the absence of a gel 672
Bermudez, A. See Vazquez, G.
Blass, E.
Formation and coalescence of bubbles and droplets 206
Brauer, H. See Brehm, G.
Brehm, G. and Brauer, H.
Investigation of turbulence in grids of particles...375
Brunner, G.
Mass separation with supercritical gases (gas extraction).....191

C

Castresana-Pelyao, J.M. See Gonzalez-Velasco, J.R.
Chenlo, F. See Vazquez, G.
Choi, C.K. See Kim, L.H.
Choi, C.K. See Lee, J.D.
Choi, U. See Kim, L.H.

D

Daguenet, M. See LePalec, G.
Daraktschiev, R.
The distribution of gas over the cross section of packed towers 222
Dascalu, C. See Pavel, A.
Degiovanni, A. See Moyne, C.
Dohmen, H.-J., Janssen, M., and Grahl, K.G.
The calculation of three-dimensional parabolic flows with arbitrary boundary geometries 21
Domenech, S. See Aly, S.

E

Eckert, E. See Kasper, VV.
Eguchi, W. See Mori, Y.

F

Foyen, S. See Barious, B.
Friedel, L. and Westphal, F.
Models for the prediction of leakage rates from pressurized equipment and pipes in chemical plants.....620
Fujiwara, K. See Ono, H.

G

Gibert, R. See Abid, M.
Görner, K. and Zinser, W.
Simulation of industrial combustion systems...607
Gonzalez-Marcos, J.A. See Gonzalez-Velasco, J.R.
Gonzalez-Velasco, J.R., Gutierrez-Ortiz, M.A., Castresana-Pelyao, J.M., and Gonzalez-Marcos, J.A.
Modeling of batch distillation by the pulse-response method 568
Gorak, A., Kraslawski, A., and Vogelpohl, A.
The simulation and optimization of multicomponent distillation 1
Grahl, K.G. See Dohmen, J -J.
Gutierrez-Ortiz, M.A. See Gonzalez-Velasco, J.R.

H

Han, S.B. and Park, P.W.
Absorption from rising bubble of SO_2 into pure water 308
Han, S.-K. See Youn, J.-T.
Hao, Y.-J. and Tanaka, T.
Analysis of a solid-solid reaction controlled by unidirectional diffusion 244
Harada, E. See Kuriyama, M.
Harada, E. See Muriyama, M.
Harada, M. See Takeshita, T.

Hasatani, M., Watanabe, F., and Marumo, C.
Separation of air at low temperature by structural molecular-sieving carbon 134
Hashimoto, O., Mori, S., Hiraoka, S., Yamada, I., Kojima, T., and Tsuji, K.
Heat transfer to the surface of vertical tubes in the freeboard of a turbulent fluidized bed 254
Hass, H.J. See Stammler, M.
Hatano, H. and Ishida, M.
Interphase moss transfer with adsorption and chemical reaction in a fluidized bed 712
Hattori, M. See Bando,Y.
Hayashi, N., Iwata, M., Kato, I., Takemura, K., Murase, T., and Shirato, M.
Effect of residual polymer flocculant on the CST test for determining the optimum dosage 91
Hayashi, Y., Nakano, Y., Hirai, E., and Kageyama, N.
Characteristics of packed columns operated as a cross-flow cascade 498
Hibiki, T., Yamaguchi, M., and Katayama, T.
Formation of single charged droplets from a laminar liquid jet in a uniform electric field 300
Hibino, S. See Mori, Y.
Hirai, E. See Hayashi, Y.
Hiraoka, S. See Hashimoto, O.
Honda, G. See Matsumoto, S.
Honda, G. See Yoshida, M.
Honda, K. See Miyakawa, H.
Houchal, A., Mainardi, H., and Pouliquen, J.M.
Heat transfer coefficients in steady and transient two-phase flows.....487

I

Imakoma, H., Sang, K., and Okazaki, M.
The effective thermal conductivity of fibrous insulations 738
Ishida, M. See Hatano, H.
Ishihara, H. See Kato, K.
Ito, R., Anabuki, K., and Kondo, O.
Simulation of continuous separation of proteins by isoelectric focusing 259
Iwama, T. See Yoshida, M.
Iwata, M. See Hayashi, N.
Izumi, M., Oh-uchi, M., Takahashi, S., Yamakawa, N., and Westwater, J.W.
Effect of obliquely scratched surface-roughness on heat transfer during condensation 289

J

Janssen, M. See Dohmen, H.-J.
Jarny, Y. See Barious, B.
Jimbo, G. See Takeshita, T.
Jin, J. See Yu, D.

K

Kafarov, V.V. See Zhukova, T.B.
Kageyama, N. See Hayashi, Y.
Kakinuma, K. See Kato, K.
Kamineski, J.
Mixing power of turbine-type impellers with divided, inclined blades 517
Kaminoyama, M., Saito, F., and Kamiwano, M.
Numerical analysis of three-dimensional flow of a pseudoplastic liquid in a stirred vessel with a turbine impeller.....720
Kaminoyama, M. See Kamiwano, M.
Kamiwano, M., Saito, F., and Kaminoyama, M.
Velocity distribution and apparent viscosity of a pseudoplastic liquid in a stirred vessel 274
Kamiwano, M. See Kaminoyama, M.
Kasper, V., Eckert, E., and Marek, M.
The use of global access in the simulation of rectification and absorption 547
Katayama, T. See Kibiki, T.
Kato, I. See Hayashi, N.
Kato, K., Ishihara, H., Yoshie, K., Kakinuma, K., and Takarada, T.
Natural convective heat transfer between heated vertical, parallel plates with baffles at the top and bottom.....509
Kim, H.S. and Kim. W.S.
The mechanism of droplet formation and prediction of the droplet size in a liquid-liquid system 169
Kim, L.H., Choi, C.K., and Choi, U.
Natural convection induced by mass transfer through a membrane. A theoretical model for interfacial convection at high Rayleigh numbers....318
Kim, W.S. See Kim. H.S.
Kijima, T. See Hashimoto, O.
Kondo, O. See Ito, R.
Konno, H. See Kuriyama, M.
Konno, H. See Muriyama, M.
Kraslawski, A. See Gorak, A.
Krell, L., Künne, H.-J., and Mörl, L.
Flow regimes and heat and mass transport in gas-fluidized beds of solids.....45
Künne, H.-J. See Krell, L.
Kuraishi, M. See Bando, Y.
Kuriyama, M., Harada, E., and Konno, H.
An analogy between heat and momentum transfer for the flow of solid-liquid suspensions in a cylindrical pipe 703

L

Laguerie, C. See Abid, M.
Lalande, M. See René, G.
Lee, J.D., Choi, C.K., and Shin, C.B.
The analysis of thermal instability in a horizontal fluid layer heated from below with a uniform, constant heat flow.....761

LePalec, G. and Daguenet, M.
Mixed convection about a sphere rotating in forced axial flow 683
Lopez, J.M. See Sobron, F.
Lübbert, A. See Schügerl, K.

M

Ma, X. See Yu, D.
Mainardi, H. See Houchal, A.
Mameri, N. See Barious, B.
Marek, M. See Kasper, V.
Marquardt, W.
Traveling waves in chemical processes 585
Marumo, C. See Hasatani, M.
Maruo, K. See Murakami, M.
Matsumoto, S. See Yoshida, M.
Miyakawa, H., Honda, K., and Munakata, T.
The effect of composition on the performance of a packed distillation column 756
Mori, S. See Hashimoto, O.
Mori, Y., Uemae, H., Hibino, S., and Eguchi, W.
Proper condition of the surfactant liquid membrane for the recovery and concentration of chromium (VI) from aqueous sulfuric acid solution 124
Mörl, L. See Krell, L.
Motono, K., Nomura, S., and Tanaka, T.
Prediction of dead-zone boundaries in bulk solids in two-dimensional gravitational flow 747
Moyne, C., Stemmelen, D., and Degiovannio, A.
Asymmetric drying of porous materials at high temperature. Theoretical analysis and experiments 654
Müller-Steinhagen, H. and Schlünder, E.U.
The effect of thermal conduction in the tube wall on the perimeter-average heat transfer coefficient for boiling in horizontal evaporator tubes 419
Munakata, T. See Miyakawa, H.
Murakami, M., Maruo, K., and Yoshiki, T.
Development of an electromagnetic flowmeter for studying gas-liquid, two-phase flow 699
Murase, K. See Aragaki, T.
Murase, T. See Hayashi, N.

N

Nakamura, H. See Tone, S.
Nakanishi, K. See Sato, M.
Nakano, Y. See Hayashi, Y.
Navaza, J.M. See Vazquez, G.
Nishimura, M. See Bando, Y.
Nomura, S. See Motono, K.

O

Odagiri, S. See Yoshida, M.
Oh-uchi, M. See Izumi, M.
Ohya, M. See Yamazaki, M.
Okazaki, M. See Imakoma, H.
Ono, H., Fujiwara, K., Sugiyama, E., and Yoshida, K.
Development of a process for the direct liquid-phase synthesis of ethanol from carbon monoxide and hydrogen using a homogeneous ruthenium catalyst 503
Otero, D. See Vazquez, G.

P

Park, P.W. See Han, S.B.
Pavel, A. and Dascalu, C.
Thermal design of industrial flares. Part I 343
Part II 353
Part III 535
Pibouleau, L. See Aly, S.
Pisarenko, V.N. See Zhukova, T.B.
Pouliquen, J.M. See Houchal, A.

R

Rabanillo, L. See Sobron, F.
René, G. and Lalande, M.
Description and measurement of the fouling of heat exchangers in the thermal treatment of milk ...643
Rhee, B.-S. See Youn, J.-T.
Ružická, V., Jr. See Zábranský, M.

S

Sadakata, M. See Sato, M.
Saito, F. See Kaminoyama, M.
Saito, F. See Kamiwano, M.
Sakai, T. See Sato, M.
Salager, J.-L.
The fundamental basis for the action of a chemical dehydrant. Influence of the physical and chemical formulation on the stability of an emulsion 103
Salah, H.M. See Aragaki, T.
Sang, K. See Imakoma, H.
Sato, M., Tokita, K., Sadakata, M., Sakai, T., and Nakanishi, K.
Sterilization of microorganisms by a high-voltage, pulsed discharge under water 695
Scheper, T. See Schügerl, K.
Schlünder, E.U. See Müller-Steinhagen, H.
Schügerl, K., Lübbert, A., and Scheper, T.
Online process analysis in bioreactors 433
Seichter, P. See Vranek, M.
Shi, S. See Yu, D.
Shin, C.B. See Lee, J.D.
Shirato, M. See Hayashi, N.

Shoji, S. See Yamashita, Y.
Slama, V. See Vránek, M.
Sobron, F., Rabanillo, L., and Lopez, J.M.
A model for heat and mass transfer in laminar flow through tubes with axial diffusion 236
Stammler, M. and Hass, H.J.
Methods of immobilizing soil contamination 16
Stemmelen, D. See Moyne, C.
Stietz, M. See Thurner, F.
Sugiyama, E. See Ono, H.
Suzuki, M. See Aragaki, T.
Suzuki, M. See Yamashita, Y.
Suzuki, Y. See Yoshida, M.

T

Takahashi, S. See Izumi, M.
Takarada, T. See Kato, K.
Takemura, K. See Hayashi, N.
Takeshita, I. See Bando, Y.
Takeshita, T., Harada, M., Yoshimi, H., Yamazaki, R., and Jimbo, G.
Characteristics of discharge of aerated granular materials through an orifice 268
Tako, M.
A comment on two modified numerical methods for solving steady, one-dimensional diffusion 297
Tanaka, T. See Hao, Y.-J.
Tanaka, T. See Motono, K.
Tal-Figiel, B.
Conditions for instability of the liquid-liquid interface in an ultrasonic field 526
Thurner, F. and Stietz, M.
Determination of adsorption isotherms on solvent-wet adsorbents by the flow method 36
Törös, S. and Nakamura, H.
Tokita, K. See Sato, M.
Tone, S. and Nakamura, H.
Pressure-driven optical resolution of amino acids using enzyme-immobilized composite membranes 281
Toyama, S. See Aragaki, T.
Tsuchiya, K. See Yamazaki, M.
Tsuji, K. See Hashimoto, O.

U-V

Uemae, H. See Mori, Y.
Vajda, T. and Törös, R.
A modern theory of filtration and its application in the optimization of the operation of various filters 767
Vazquez, G., Antorrena, G., Bermudez, A., Chenlo, F., and Otero, D.
The interfacial velocity between two liquid phases in laminar flow through a rectangular channel...117
Vazquez, G., Antorrena, G., and Navaza, J.M.
Estimation of the turbulence induced by the Marangoni effect at a gas-liquid interface 228
Vlaminck, M.
Prediction of thermodynamic properties of organic fluids with the help of computer software 479
Vogelpohl, A. See Gorak, A.
Vránek, M., Seichter, P., and Slama, V.
Measurement of the power for systems of radial turbine impellers in nonstandard vessels 562

W

Wanik, A.
Effect of flow-disturbing rings (furring) on the thermal and hydraulic characteristics of shell-and-tube heat-exchangers 326
Watanabe, F. See Hasatani, M.
Westphal, F. See Friedel, L.
Westwater, J.W. See Izumi, M.

X-Y

Xue, Z. See Yu, D.
Yamada, I. See Hashimoto, O.
Yamaguchi, M. See Hibiki, T.
Yamakawa, N. See Izumi, M.
Yamashita, Y., Shoji, S., and Suzuki, M.
A fault-diagnosis system based on qualitative reasoning 151
Yamazaki, M., Ohya, M., and Tsuchiya, K.
Detection of the air-equivalence ratio of a burner from the flame-emission spectra 160
Yamazaki, R. See Takeshita, T.
Yoshida, K. See Ono, H.
Yoshida, M., Matsumoto, S., Honda, G., Iwama, T., Suzuki, Y., and Odagiri, S.
Control of the temperature distribution in a supercritical-gas extractor 142
Yoshie, K. See Kato, K.
Yoshiki, T. See Murakami, M.
Yoshimi, H. See Takeshita, T.
Youn, J.-T., Han, S.-K., and Rhee, B.-S.
Gas absorption in an aqueous polymer solution using a rotating multiroller (RMR) absorber....176
Yu, D., Xue, Z., Ma, X., Zhou, M., Jin, J., and Shi, S.
Extraction of diesel oil from middle distillate in coal liquefaction by hydrotreating and hydrocracking 334

Z

Zábranský, M., Růžická, V., Jr., and Barcal, P.
Heat capacities of pure inorganic liquids and their specific heats and melting points.....554
Zinser, W. See Görner, K.
Zhou, M. See Yu, D.
Zhukova, T.B., Pisarenko, V.N., and Kafarovc, V.V.
Modeling and design of industrial reactors with a stationary bed of catalyst and two-phase gas-liquid flow—a review 57